# Archaeological Survey

The Union Pacific San Antonio Intermodal
FacilityTract (SAIT)

+/- 175 Acres
San Antonio, Texas

December 7, 2012

FGS Control # FGS-E12261

Prepared exclusively for

Union Pacific Railroad 1400 Douglas Street - Stop 1690 Omaha, Nebraska 68179

# Frost Geosciences

Geologic and Environmental Consulting

13402 Western Oak • Helotes, Texas 78023 • Phone: (210) 372-1315 • Fax: (210) 372-1318



13402 Western Oak Helotes, Texas 78023 Phone (210) 372-1315 Fax (210) 372-1318 www.frostgeosciences.com TBPE Firm Registration # F-9227 TBPG Firm Registration # 50040

December 7, 2012

Union Pacific Railroad Attn: Mr. Jim Hild, Senior Manager - Real Estate 1400 Douglas Street - Stop 1690 Omaha, Nebraska 68179

Re: Archaeological Survey

The Union Pacific San Antonio Intermodal FacilityTract (SAIT)

+/- 175 Acres

San Antonio, Texas

Frost GeoSciences, Inc. Control # FGS-E12261

Dear Mr. Hild:

Frost GeoSciences, Inc. in conjunction with Abasolo Archaeological Consultants have completed the Archaeological Survey at the above referenced project site. The results of our investigations have been combined and are provided in the following report.

If you have any questions regarding this report, or if Frost GeoSciences, Inc. may be of additional assistance to you on this project, please feel free to call our office. It has been a pleasure to work with you and we wish to thank you for the opportunity to be of service to you on this project. We look forward to being of continued service.

Sincerely, Frost GeoSciences, Inc.

Steve Frost C.P.G., P.G. President, Senior Geologist

#### Restricted Cultural Information

According to the Texas Administrative Code: TITLE 13: CULTURAL RESOURCES, PART 2, TEXAS HISTORICAL COMMISSION, CHAPTER 24, RESTRICTED CULTURAL RESOURCE INFORMATION, RULE §24.3 Scope: "The intent of these rules is to restrict access to specific cultural resource data to those individuals that have a legitimate scientific or legal interest in obtaining and using that information. The intent is not to limit the public's use of all information that the commission has within its libraries, files, documents, and the THSA database; however, as provided for in §442.007(f) of the Texas Government Code, and §191.004(a-c) of the Texas Natural Resources Code, the commission can determine what cultural resource information is sensitive and what information needs to be restricted due to potential dangers to those resources. The cultural resources that the commission considers to be at risk include Archaeological sites, shipwrecks, certain historic structures and engineering features. Public disclosure of any information relating to the location or character of these resources would increase their risk of harm, theft or destruction. Therefore, this information is defined as restricted and is not subject to public disclosure under state law. Restrictions on who can obtain data and how the data are used is within the legal authority of the commission, and can be defined through the rule-making authority of the commission."

As a result, it must be noted that the information contained within this report cannot be made available to the general public and additional copies of this report and the attached maps are not permissible without the written consent of Frost GeoSciences, Inc. and Abasolo Archaeological Consultants.

#### Abstract

Abasolo Archaeological Consultants conducted Phase I archaeological investigations of the Union Pacific 190-acre tract in Bexar County for Frost GeoSciences of Helotes, Texas. The project area is located on flat terraces on the east side of the Medina River and northwest of I-35. The current Union Pacific Railroad marshaling and shipping yard for pod containers borders the project area to the north. Extensive pedestrian survey revealed a light trace of both historic and prehistoric cultural resources in the southwest part of tract along the high bank (low terrace) of the Medina River. Five backhoe trenches were excavated to test for buried cultural deposits, and the vertical banks of numerous deep gullies were inspected for buried deposits. Neither the backhoe trenches nor the gully inspection revealed buried cultural resources. The light surface concentration observed does not merit further archaeological attention. No further archaeological investigations are recommended for the Union Pacific tract.

#### Introduction

Abasolo Archaeological Consultants (AAC)<sup>1</sup> conducted Phase I archaeological investigations of the Union Pacific 190 acre tract in Bexar County for Frost GeoSciences of Helotes, Texas (Fig. 1). The project area is located on flat terraces on the east side of the Medina River and northwest of I-35. The current Union Pacific Railroad Intermodal Yard, used as a marshaling and shipping yard for pod containers, borders the project area to the north.

The survey and assessment work was carried out in accordance with the "Archeological Survey Standards for Texas" to insure that no archaeological or historical resources eligible for nomination to the National Register of Historic Places are damaged or destroyed due to the planned construction. This Phase I investigation is designed to detect and record any archaeological or historical component that may be present in the project area.

## Background

#### Geology

The project tract is situated on a terrace of the Medina River. It is Quaternary (QT) in age and is comprised of fluviatile terrace deposits that are typical of low terraces above the flood plain (and, usually, above flood level) of an entrenched stream (Fig. 2). Older alluvial deposits, sand, silt and clay, make up the terraces. Underlying the surface geology in this part of Bexar County is an Eocene-age unit known as the Wilcox Group, made up of mudstone, some sandstone and lignite, some silt, often as very fine particles. The thickness of this formation ranges from 440 to 1,200 feet, and where exposed, it tends to be yellowish-gray in color (Arnow 1959:18).

December 7, 2012 Union Pacific Railroad Page 3

Abasolo Archaeological Consultants is SCTRCA certified (#211100341).

Below the terrace, on which farming is presently done, and between the terrace edge and the Medina River channel, are fairly recent alluvial deposits (Qal). In contrast to the cleared and cultivated fields on the terrace, the floodplain is heavily vegetated and has scattered construction debris dumped in some areas.

Soils

The flat farmland that characterizes the project area is almost all within the Lewisville silty clay (LvA; 0-1% slopes)(Figs 3 and 4). This soil is typical of broad terraces along streams, with the surface consisting of light-colored silty clay; about two feet below the surface the soil shifts to firm silty clay. The Lewisville soil is excellent for farming.

Around the margins of the field, paralleling the Medina River is Venus clay loam (VcA; 0-1% slopes). It is described by Taylor (et al. 1991:33) as an easily cultivated and productive soil. However, upper soils (clay loam) becomes "less clayey" with depth. Perhaps this contributes to the formation of very deep erosional cuts on the terrace edge. Erosion begins on the margins of the fields, cutting v-shaped gullies, with some of these reaching dramatic size and depth (see Figures 5 and 6).

## Archaeology

## Archaeological Background

The nature of historic and prehistoric cultural resources in southern Bexar County are poorly known, especially when compared to intensive studies done across large parts of northern San Antonio. Downstream from the present project, a number of publications and field studies resulted from the planning for the defunct Applewhite Lake (McGraw and Hindes 1987; Thoms and Mandel 2007).

The archaeological record of southern Bexar County fits into the regional cultural framework extending back at least 11,200 years (e.g., Hester 2004). The first occupations occurred in the <u>Paleo-Indian</u> period during the last part of the Pleistocene, indicated by the occurrence of scattered Clovis and Folsom spear points. Groups were likely small and highly mobile. Clovis peoples (9200 B.C.) hunted Ice Age mammals, such as mammoth, and the later Folsom bands (8800 B.C.) emphasized large, extinct species of bison (buffalo). As modern environments began to emerge around 10,000 years ago, Paleo-Indian peoples were more numerous, and there is widespread evidence of occupation throughout the region.

The hunting and gathering patterns of this early time frame, involving modern species of animals and plants, began to be intensified by 8,000 B.C., leading to the development of Archaic cultures. This way of life lasted for thousands of years, reflected by regional specialization and locally distinctive types of projectile points, scrapers, and other stone tools. It was not until about 700 A.D. that changes in this long-lived tradition began to change. The introduction of the bow and arrow marked the beginning of the Late Prehistoric period. The most distinctive archaeological indicator is the presence of tiny arrow points, and later, around A.D. 1300, intensified hunting of buffalo. With the arrival of the Spanish in the region in the late 17<sup>th</sup> century, the native peoples of the Historic period began to go into the missions. The raids of invading Lipan Apache bands spurred this transition. Old ranch complexes and farmsteads were once present across a landscape increasingly subject to development and urban sprawl. The Applewhite studies by McGraw and Hindes (1987) focused on Spanish ranching and farming complexes in the Medina River drainage to the east.

#### **Nearby sites**

There is a scatter of sites in this area north of the Medina River. There are two recorded sites, 41BX1709 and 41BX1726, located in part of the Union Pacific tract (Fig 7).

Site 41BX1709 (Fig. 7) was first recorded in 2004 by SWCA Environmental Consultants of Austin. In their survey of the site, they noted a few scattered lithics, with no diagnostic tone tools. Three backhoe trenches were dug at 10-meter intervals; no buried materials ere found and the site was not recommended for any further research (Lawrence et al.2005).

However, in 2008, Abasolo Archaeological Consultants was asked to further evaluate 41BX1709. The resulting study (Shafer 2008) did identify a trace of buried cultural resources but confirmed that the site was not eligible for the National Register of Historic Places.

Our interest in this site in 2012 was to see if it extended northeast of the railroad onto the east end of current tract. Only a trace of disturbed or scattered prehistoric refuse (two flakes and one mussel shell) were observed, indicating that the site area did not extend across the railroad.

Site 41BX1726 was first recorded in 2007 by Brown et al. (2007), the result of an archaeological survey prior to the construction of the Union Pacific Railroad Intermodal Yard. Their evaluation of the site follows (from Texas Archeological Site Atlas, Texas Historical Commission):

"This large site appears to be the disturbed and mixed remnant of numerous campsites occupying the terrace top above the Medina River and Medio Creek over a long period of time. Fire-cracked rock predominates so campsite use seems logical. Relatively large quantities of debitage suggest some stone tool manufacture but despite gravel introduced onto the farm roads during the 20th century, there seems to be no stone raw material on site; such material is thought to be common, however, in deposits along the Medina River and Medio Creek, both a short distance from the site."

In 2009, the site was visited again by archaeologists from SWCA Environmental Consultants, Inc. of Austin, as part of a survey related to the Medina River Sewer Outfall project). Their description of the site (Texas Archeological Site Atlas) was the same as

in the 2007 survey, although they described the site as a "lithic scatter" rather than a "campsite." No further work was recommended.

As plotted on the Texas Archeological Site Atlas, the west, and especially the southwestern, edges of this site likely impinge on the present project area. Whether or not this is actually the case is irrelevant, as most of 41BX1726 lies under the present Intermodal Yard, and findings for the site indicated no research importance.

East-northeast of the present Intermodal Yard is site 41BX1131, recorded in 1995 by the United States Army Corps of Engineers (Fort Worth). The site was "observed" but not closely surveyed. The survey record indicates that hearthstones were present, and that there were no diagnostic stone tools

North-northwest of the survey tract is site 41BX1727, possibly a part of 41BX1726. It, too, was recorded by Brown et al. (2007) who describe some lithic debitage and a historic porcelain sherd. No further work was required.

## Scope of Work

The research design called for the following tasks to be completed.

Task A: Conduct a 100% pedestrian survey of the 190-acre tract.

Task B: Document any archaeological sites and isolated finds encountered and assess previously recorded sites.

Task C: Conduct backhoe testing to test for buried cultural resources and, if necessary, define site boundaries.

Task D: Provide a written report detailing the area surveyed, methods used, archaeological background, survey findings, and recommendations. The report will be produced in conformance with the Secretary of Interior's Guidelines for Archaeology and Historic Preservation, which will be submitted to Frost GeoSciences, Helotes, and Texas.

Diagnostic artifacts encountered during the course of the survey or testing were to be digitally photographed for recording. A no collection policy will be followed unless unusual finds are encountered. If any collections are made, the artifacts will be curated at the Center for Archaeological Research at The University of Texas at San Antonio.

### **Survey Results**

The pedestrian survey was conducted by the authors and accompanied by T. G. Bey of Frost GeoSciences on November 9, 2012 and the backhoe testing was conducted the following week with the assistance of Reza Khaladj-Esmaily with Frost GeoSciences. The survey conditions were ideal as approximately 95 percent of the area to be inspected was in flat cultivated fields. Part of the tract between the railroad and I-35 had been previously surveyed and backhoe tested (SWCA, others, Shafer 2008).

Extensive gullying along the border of the terrace overlooking the river created deep vertical cuts that provided a very clear perspective of the alluvial deposits. These gullies reached a depth of 3 meters in some areas and precluded the need for backhoe testing along the perimeter of the tract (Figs 5 and 6). No buried cultural resources were observed in the banks; only a faint A horizon approximately one-half meter below the surface in one gully but no signs of cultural resources were seen at that level or anywhere in the profile.

The pedestrian survey identified one area of the tract that exhibited a very thin scatter of prehistoric artifacts in the form of fire-cracked rock, chipped stone residue (flakes and cores)(Fig. 9), and a rare mussel shell (Fig. 10)). No diagnostic prehistoric artifacts were

noted. This scatter amounted to approximately one artifact per 8 square meters. Three backhoe trenches were placed within the scatter and none of the material extended beyond the plow zone. The locations of the backhoe trenches are shown in Figure 8. The thin scatter of cultural material was not sufficiently concentrated to give it a formal trinomial site designation.

The historic trash scatter was also widely scattered over much of the same area the prehistoric materials were observed and consisted of white stoneware sherds and glass; the latter consisted of broken window panes and glass containers (Fig. 10). No diagnostic ceramics were observed that would allow for cross dating. No structural evidence, such as foundation or chimney stones, was present. The location of the historic trash is shown in Figure, but the density was so sparse that no formal site number was given to the scatter.

#### **Backhoe Trenches**

Five backhoe trenches were excavated to test for buried cultural deposits, the locations of which are shown in Figure 8; all produced negative results. A brief description of each is provided below.

#### BHT#1

This trench was located near the west edge of the terrace overlooking the Medina River where a trace of prehistoric cultural material in the form of a rare flake or fire-cracked rock was observed in the plowed field (Fig. 8). The trench was 3 meters long and 1.2 meters deep (Fig.11). The trench profile can be described as follows:

0-25 cm:

Dark yellow-brown sandy loam (Munsell hue10YR4/4).

25-60 cm:

Yellowish-brown sandy clay loam becoming lighter with depth;

some calcium carbonate ca. 50-60 cm below surface (Munsell

10YR5/6).

60 cm-1.2 m: Brownish-yellow clay loam with some calcium carbonate nodules (Munsell 10YR68).

No cultural resources were observed in the profile.

#### BHT#2

BHT#2 was located about 100 meters southwest of BHT#1 also along the west edge of the terrace overlooking the river (Fig. 8; Fig. 12). The trench was about 3 meters long and 1.3 meters deep. The profile, which was very similar to that of BHT #1, is described as follows:

0-30 cm: Dark yellow-brown sandy loam (Munsell hue10YR4/4).

30-75 cm: Yellowish-brown sandy clay loam becoming lighter with depth;

some calcium carbonate ca. 50-60 cm below surface (Munsell

10YR5/6).

75-cm-1.3 m: Brownish-yellow clay loam with some calcium carbonate

nodules (Munsell 10YR68).

No cultural resources were observed in the profile

#### BHT#3

Placed about 100 meters southwest of BHT#2 in an area where a trace of prehistoric and historic cultural material was observed on the surface (Fig. 8), this trench exposed a much different profile, which consisted entirely of a yellow-brown sandy loam (Munsell 10YR5/4) from the surface to the maximum depth of 1.2 meters (Fig. 13 Top). The sandy loam composed the natural river levee and showed no evidence of soil development or buried stable surfaces. The trench was 1.2 meters deep and about 4 meters long. No cultural resources were observed in the profile

#### BHT#4

This trench was placed at the base of the terrace and at the edge of the floodplain in the southwestern edge of the project area (Fig. 13 Bottom, Fig. 14 Top). The purpose was to test for deep deposits known to occur along the Medina River valley (see Thoms and Mandel 2007)). The test provided no information on the presence of deeply buried cultural resources, however, as the entire profile consisted of yellow-brown sandy loam deposits to a depth of 1.2 meters (Munsell 10YR5/4). No cultural resources were observed in the profile.

#### BHT#5

This trench was placed on a slightly elevated part of the field thought to represent the edge of a higher terrace (Fig. 8). A distinct soil change was noted with the elevation change although this may have been artificial rather than natural (Fig. 14 Bottom). The three-meter long trench reached a depth of 1.3 meters. The profile is described as follows:

0-40 cm: Mixed dark brown elay loam plow zone, possibly consisting of fill from nearby construction excavation. Mixture incudes white

nodules and tan lumps indicating an unnatural soil.

40 cm-1.3 m. Dark brown clay loam (Munsell 10YR3/3).

No cultural resources were observed in the profile.

#### **Summary of Backhoe Testing**

The five backhoe trenches are provided negative results with regards to finding buried cultural resources. The negative results correlate with the observations made in the numerous gullies that occur along the terrace edge. The trenches did detect three distinctly different soil profiles, however, indicating that two separate terrace formations

and an ancient river levee were probably tested. BHT#1 and BHT#2 located along the high terrace bank overlooking the Medina River showed a developing profile with calcium carbonate nodules increasing with depth that corresponds to the Venus soil series. BHT#3 and BHT#4 exposed a deep profile of sandy loam that probably represents river levee deposits, and BHT#5 exposed an entirely different profile of dark clay loam consistent with the Lewisville soil series.

#### Conclusions and Recommendations

In summary, our team conducted a thorough surface survey of the 190-acre Union Pacific tract and as a result, we identified a light trace of both historic and prehistoric cultural resources. This concentration occurred along the high bank (low terrace) of the Medina River along the northern part of the tract. Backhoe testing and examination of the deep gullies along the terrace edge did not reveal buried cultural resources. No further archaeological investigations are recommended for the Union Pacific tract.

#### References Cited

Arnow, T.

1959 Ground-Water Geology of Bexar County, Texas. Bulletin 5911, Texas Water Board of Engineers. Austin.

Brown, D. O., D. Anthony and J. T. Jones

2007 Archaeological Survey for a Proposed Rail Yard Facility in Southern Bexar County. Texas. Report of Investigations 21. Anthony & Brown Consulting, Austin, Texas.

Hester, T. R.

2004 The Prehistory of South Texas. In *The Prehistory of Texas*, edited by T. K. Perttula, pp. 127-151. Texas A&M University Press, College Station.

McGraw, A. J. and K. Hindes

1987 Chipped Stone and Adobe: A Cultural Resources Assessment of the Proposed Applewhite Reservoir, Bexar County, Texas. Archaeological Survey Report 163. Center for Archaeological Research, The University

> December 7, 2012 Union Pacific Railroad Page 12

of Texas at San Antonio.

Lawrence, K., K. A. Miller, E. Wingate, and M. L. Bonine

2005 Cultural Resource Survey of the San Antonio Water Systems Gonzales County Carrizo Aquifer Project, Gonzales, Wilson, and Bexar Counties. Report 2005-296. SWCA, Austin

Shafer, H. J. 2008

> An Archaeological Survey of the Bailey Commercial Property and Site Assessment of 41BX1709, Southwest San Antonio, Bexar County, Texas. Report 76. Abasolo Archaeological Consultants, San Antonio.

Taylor, F. B., R. B. Hailey, and D. L. Richmond

1991 Soil Survey of Bexar County. Series 1962, No. 12. Reissued June 1991. United States Department of Agriculture, Soil Conservation Service, Washington, D.C.

Thoms, A. V. and R. D. Mandel, editors

2007 Archaeological and Paleoecological Investigations at the Richard Beene Site, South-Central Texas. Reports of Investigation. 8, Center for Ecological Archaeology, Texas A&M University, College Station.

# Figures

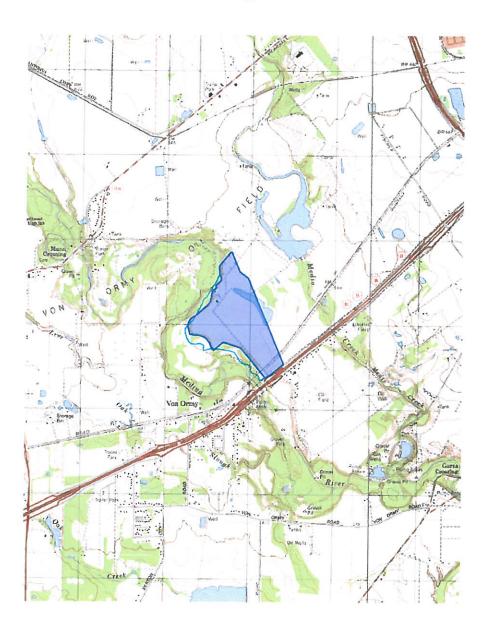


Figure 1. Topographic map showing the location of the Union Pacific tract in the Medina River valley (image provided by Frost GeoSciences).

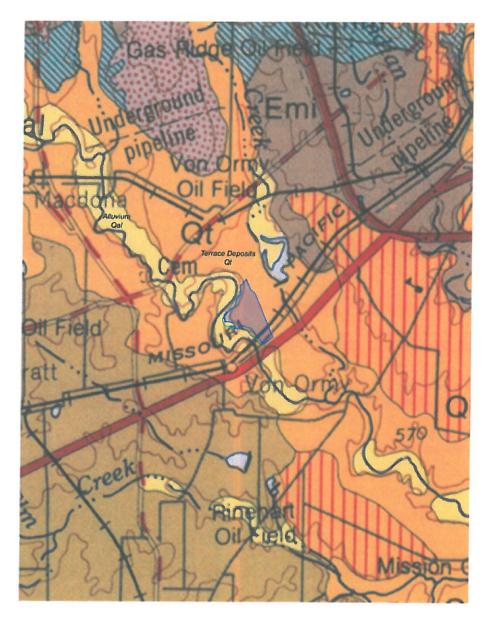
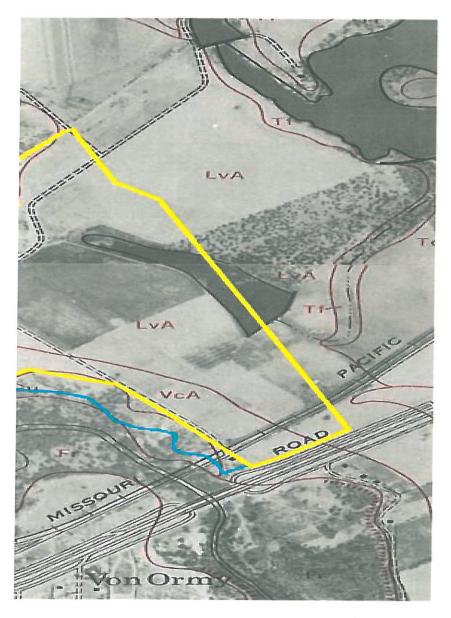


Figure 2. Geological maps showing the Union Pacific tract location on Quaternary alluvium (image provided by Frost GeoSciences).

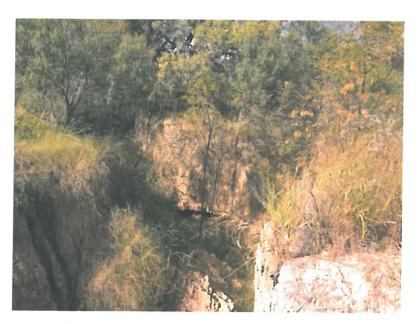


nt soils in the Union Pacific tract to be ed soils along the floodplain edge (image





Figure 4. Two views of the Union Pacific tract showing the flat, mostly cultivated landscape.



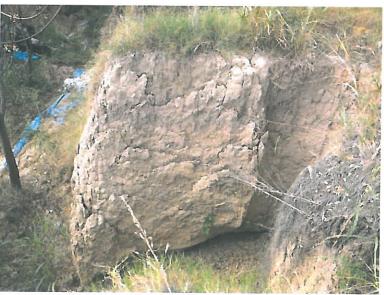


Figure 5. Views of the deep gullies along the terrace edge overlooking the Medina River floodplain.



Figure 6. Gullied edge of the first terrace of the Medina River.

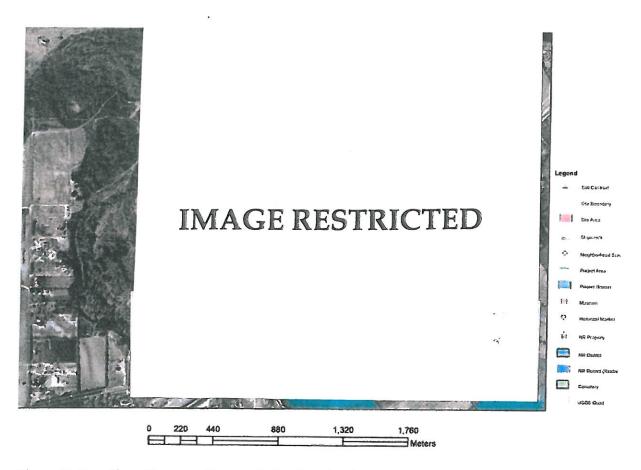


Figure 7. Location of previously regarded archaeological sites in the project area.



# **IMAGE RESTRICTED**



Figure 8. Plan view of the Union Pacific Tract showing the location of the artifact scatter and backhoe trenches (image provided by Frost GeoSciences).





Figure 9. Top row: Chert flakes. Bottom row: quartzite core tools.

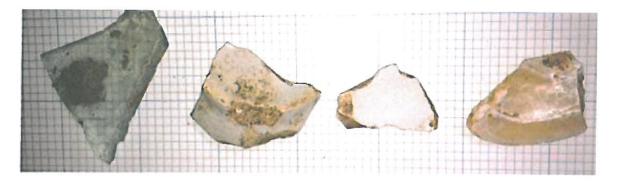


Figure 10. Historic artifacts and mussel shell. Left, glass; center, two stoneware sherds; right, mussel shell.



Figure 11. Backhoe Trench #1 profile.





Figure 12. Top: Excavating Backhoe Trench #2. Bottom: Backhoe Trench #2 profile.





Figure. 13. Top: Backhoe Trench #3 profile. Bottom: Excavating Backhoe Trench #4.





Figure 14. Top: Backhoe Trench #4 profile. Bottom: Backhoe Trench #5 profile.

